Chapter 17
Aviation
2006 Changes

Chapter/Page 17-1; Line 4-20; Release January 2006
Purpose and Scope
? Aviation resources are one of a number of tools available to accomplish fire related land management objectives. Their use has value only if that use serves to accomplish the mission.

Aviation use must be prioritized based on management objectives and probability of success.

The effect of aviation resources on a fire is directly proportional to the speed at which the resource (s) can initially engage the fire, and the effective capacity of the aircraft. These factors are magnified by flexibility in prioritization, mobility, positioning, and utilization of the versatility of many types of aircraft.

Risk management is a necessary requirement for the use of any aviation resource. That risk management process must include the risk to ground resources, and the risk of not performing the mission, as well as the risk to the aircrew.

? ~~Aviation managers are responsible for all aircraft missions. Policy and standards will ensure that aviation services are cost effective, minimize risk, and benefit the agency and the public.~~

~~Aviation management provides a service for the customer, whether the customer is the user of public resources or an activity within the organization. Clear direction and good management practices can reduce risks inherent to aviation missions.~~

~~The emphasis for any aviation mission is safety, minimizing risk, planning, supervision, and evaluation.~~

Chapter/Page 17-1; Line 24-45; Release January 2006
? **National Office**

Aviation Management Directorate
The Aviation Management Directorate, of the National Business Center, is responsible for aviation policy development, aircraft acquisition, ? financial services, and maintenance management within the agencies of the Department of the Interior (DOI). AMD has no operational responsibility. AMD provides aviation safety program oversight, accident investigation, and aircraft and pilot ? ~~card~~ inspection and approval for DOI use.

- ***BLM -*** *National Aviation Office (NAO) - NAO develops BLM policy, procedures, standards, and maintains functional oversight and facilitates interagency coordination for all aviation activities. The principal goals are safety and cost-effectiveness. The NAO supports BLM activities and missions, including fire suppression, through* ? *strategic program guidance, managing aviation programs of national scope, coordination with AMD and interagency partners* ~~*risk management*~~*. National OF&A has the responsibility and authority, after consultation with State FMOs, for funding and acquisition of all fire aircraft, prioritizing the allocation of BLM aircraft on a national basis, and approving State Office requests to acquire supplemental aircraft resources. Refer to BLM Manual 9400 for aviation policy and guides. (Refer to 112 DM 12 for a list of responsibilities.)*

Chapter/Page 17-2; Line 17-25; Release January 2006
State/Regional Office

- ? ***BLM/FWS/NPS -*** *A State/Regional Aviation Manager (S/RAM) is located in each state/regional office. S/RAMs implement aviation program objectives and directives to support the agency mission and state/region objectives. Several states/regions have additional support staff,* ? ~~*aircraft dispatchers*~~*, and/or pilots assigned to support aircraft operations and to provide technical expertise. A state/regional aviation operations and management plan is required to outline the state/region's aviation program objectives and to identify state/region-specific policy and procedures.*

Chapter/Page 17-2; Line 38-45; Release January 2006

- ***BLM*** *-* ? *State FMOs are responsible for providing contract oversight (COR) for aircraft hosted in their state. State FMOs have the authority and responsibility to approve, with National Office concurrence, acquisition of supplemental aircraft resources within their state. State FMOs have the authority to prioritize the allocation, pre-positioning and movement of all aircraft assigned to the BLM within their state. State Offices will coordinate with the National Office on movement of their aircraft outside of their State.*

Chapter/Page 17-3; Line 1-11; Release January 2006
? **Local Office**
Some areas have interagency aviation programs that utilize an Aviation Manager for multiple units. Duties are similar as other local level managers.

- ? ***BLM -*** ~~*Local Level*~~ *- Unit Aviation Managers (UAMs) serve as the focal point for the Unit Aviation Program by providing technical expertise and management of aviation resources to support Field Office/District programs. Field/District Offices are responsible for hosting, supporting, providing daily management, and dispatching all aircraft assigned to their unit. Field/District Offices have the authority to request additional*

resources; and to establish priorities, and make assignments for all aircraft assigned to the BLM within their unit or zone. ~~*have the responsibility for aviation activities at the local level, including aviation mission planning, safety measures, supervision, and evaluation. UAMs assist Field Office Managers with risk assessment/management and cost analysis.*~~

Chapter/Page 17-3; Line 19-28; Release January 2006
Aviation Information Resources
Aviation reference guides and aids for agency aviation management are ? listed for policy, guidance, and specific procedural requirements.

- ***BLM*** *- 9400 Manual Appendix 1, BLM* ? *Fixed Wing Standard Operations Procedures, National Aviation Plan.* ? *State and Unit Aviation Plans (In all cases DOI policy Department Manuals [DMs], Operational Procedural Memoranda [OPMs], and BLM policy will take precedence.)*
- ***FWS*** *- Service Manual 330-339, Aviation Management and IHOG.*
- ***NPS*** *- RM-60 Aviation Management Reference Manual and IHOG.*
- ***FS*** *- FSM 5700,FSM 5709.14, FSH 5709.16 and IHOG.*

? ~~In addition~~, Safety alerts, ? operational alerts, instruction memoranda, information bulletins, incident reports, and other guidance or information are issued as needed.

Chapter/Page 17-3/4; Line 16-16; Release January 2005
? ~~**Aviation Watch Out Situations**~~
~~As part of the risk management process, each aviation manager and employee should ask the following questions to develop controls and make good decisions.~~

- ~~Is this flight necessary?~~
- ~~Who is in charge?~~
- ~~Are all hazards identified and have you made them known?~~
- ~~Should you stop the operation or flight due to change in:~~
  - ~~Conditions?~~
  - ~~Weather?~~
  - ~~Communications?~~
  - ~~Turbulence?~~
  - ~~Confusion?~~
  - ~~Personnel?~~
  - ~~Conflicting Priorities?~~
- ~~Is there a better way to do it?~~
- ~~Are you driven by an overwhelming sense of urgency?~~
- ~~Can you justify your actions?~~
- ~~Are there other aircraft in the area?~~
- ~~Do you have an escape route?~~
- ~~Are any rules being broken?~~
- ~~Are communications getting tense?~~

- ~~Are you deviating from the assigned operation or flight?~~

~~This list is found in the *IRPG*.~~

~~Mission Planning/Hazard Mitigation~~

~~Pre-flight planning will reduce risks on any mission. Flight planning and scheduling require the following points be addressed:~~

- ~~Completed and signed Aircraft Flight Request/Schedule or an Incident Resource Order~~
- ~~Cost analysis~~
- ~~Assessment and mitigation of hazards~~
- ~~Selection of aircraft~~
- ~~Scheduling of pilots and aircraft~~
- ~~Pre-flight briefings and post-flight debriefings~~

Chapter/Page 17-4; Line 16-24; Release January 2006
Aviation Safety Support

During high levels of aviation activity it is advisable to request an Aviation Safety Assistance Team (ASAT). An ASAT's purpose is to assist and review helicopter and/or fixed wing operations on ongoing wildland fires. They should operate under a delegation of authority from the appropriate State/Regional Aviation Manager(s) ? or Multi Agency Coordinating Group. Formal written reports will be provided to the appropriate manager(s). A team should consist of the following:

Chapter/Page 17-4/5; Line 31-2; Release January 2005

? **~~Aircraft and Pilot Carding~~**

~~AMD/FS are responsible for inspecting and approving all aircraft and pilots utilized by the agencies. State owned aircraft and state agency pilots may be approved by AMD and/or the FS. These pilots are not required to carry a card; however, they must have in their possession an approval letter. The letter of authorization or Memorandum of Understanding is agency specific and valid only for each agency that is a signatory of it. With the exception of a life-threatening situation, no employee will fly with unapproved pilots or in unapproved aircraft.~~

~~The unit dispatcher or UAM (NPS – fixed wing/helicopter manager) is responsible for checking and verifying pilot and aircraft cards for mission planning and procurement. The employee is responsible for checking pilot and aircraft cards or letters of approval before the flight.~~

~~Only the agency issuing authority can suspend or revoke a card. However, any employee can suspend operations that they consider unsafe.~~

Chapter/Page 17-5; Line 8-13; Release January 2006
Aviation Safety Briefing
Every passenger must receive a briefing prior to each flight. The briefing is the responsibility of the Pilot in Command (PIC) but may be conducted by the pilot, flight manager, helicopter manager, fixed-wing base manager, or an individual with the required training and experience to conduct an aviation safety briefing. Refer to the *Incident Response Pocket Guide (IRPG).* ? ~~*Aviation User Checklist*. The briefing will be specific to the mission, and will include (but is not limited to) the following:~~

- ~~Pilot's card - qualified and current for aircraft type and mission?~~
- ~~Aircraft card - aircraft approved for mission?~~
- ~~Flight Plan/Following - filed (FAA/Agency/Bureau)?~~
- ~~Personnel Protective Equipment (PPE) - required for missions - available and worn by all passengers and pilot?~~
- ~~Pilot briefed on mission objectives/parameters of flight and known flight hazards?~~
- ~~Pilot briefing to passengers will include:~~
  - ~~Aircraft approach and departure paths~~
  - ~~Seat belt - use and adjustment~~
  - ~~Smoking rules~~
  - ~~Fire extinguisher(s) - location and use~~
  - ~~Emergency exits - location and use~~
  - ~~Survival equipment - location and use~~
  - ~~ELT - location and use~~
  - ~~Other emergency procedures, e.g. fuel and electric shutoff~~
  - ~~Radio operations~~
  - ~~Equipment or tools - never store under seats while transporting passengers~~

Chapter/Page 17-5; Line 33-39; Release January 2006
Aviation hazards also exist in the form of wires, low-flying aircraft, and obstacles protruding beyond normal surface features. Each office will post, maintain, and annually update a "known aerial hazard map" for the local geographic area where aircraft are operated, regardless of agency jurisdiction. This map will be posted and used to brief flight crews. ? Unit Aviation Managers are responsible for ensuring the development and updating of Known Aerial; Hazard Maps (IHOG Ch3.V.J.1.c page 3-20)

Chapter/Page 17-5/6; Line 41-20; Release January 2006
SAFECOM
The Department of Interior (DOI) and the US Forest Service (FS) have an incident/hazard reporting form called The Aviation Safety Communiqué (SAFECOM). The database, available at www.safecom.gov, fulfills the Aviation Mishap Information System (AMIS) requirements for aviation mishap reporting for the DOI agencies and the US Forest Service. Categories of reports include incidents, hazards, maintenance, and airspace. The system uses the SAFECOM

Form OAS-34 or FS-5700-14 to report any condition, observation, act, maintenance problem, or circumstance with personnel or aircraft that has the potential to cause an aviation-related mishap. The SAFECOM system is not intended for initiating punitive actions. Submitting a SAFECOM is not a substitute for "on-the-spot" correction(s) to a safety concern. It is a tool used to identify, document, track and correct safety related issues. A SAFECOM does not replace the requirement for initiating an accident or incident report.

Any individual (including cooperators) with knowledge of an incident/hazard should complete a SAFECOM. The SAFECOM form should be entered directly on the internet at www.safecom.gov or can be faxed to the Aviation Management Directorate, Aviation Safety (208)433-5069 or FS at (208) 387-5735 ATTN: SAFETY. Electronic cc copies are automatically forwarded to the National, Regional, and State and Unit Aviation Managers.

The agency with operational control of the aircraft at the time of the hazard/incident/accident is responsible for completing the SAFECOM and submitting it through agency channels.

Chapter/Page 17-7; Line 4-19; Release January 2005

? ~~**Incidents**~~

~~An aircraft incident results in very minor damage to the aircraft, which meets less than serious criteria or injury not requiring medical attention (first-aid only).~~

~~**Accidents**~~

~~The definition for aircraft "accident" is lengthy and technical. An investigation team will make the determination as to the classification between an incident, incident with potential, and an accident. In general, if an occurrence was more serious than those described under the definition of "incident" above, then the occurrence should be treated as an accident.~~

- ~~***BLM/FWS/NPS** - Aviation accidents are investigated in accordance with 352 Departmental Manual - Aviation Safety, and National Transportation Safety Board (NTSB) regulations.*~~
- ~~***FS** - Definitions for FS aviation mishaps are found in FSM 5720.5. Direction for FS related Aviation Accidents and Incidents are located in FSM 5723.*~~

Chapter/Page 17-6; Line 28-38; Release January 2006

? **Aviation Assets**

Typical aviation assets that DOI and USFS utilize are: Helitack and Rappel crews, Smokejumpers, Large Airtankers, Single Engine Air Tankers, Helitankers, Air Attack, Aerial Supervision Modules, Lead Planes, Airtanker Bases, SEAT Bases, Helibases, Smokejumper Bases, Air Attack Bases.

- ***BLM** - All BLM acquired aircraft, exclusive use and CWN, are available to move to areas of greatest national need, thereby maximizing efficiency and effectiveness. Specific authorities and responsibilities for Field/State*

and National Offices are outlined earlier in this chapter. Offices are expected to adhere to procedures established in the National Aviation Plan for both acquisition, and use reporting.

Chapter/Page 17-7; Line 1-10; Release January 2006
Helitack
Helitack crews perform suppression and support operations to accomplish fire and resource management objectives.

? ~~PPE Requirements - As referenced in the *IHOG*, Chapter 9, chart 9-2, full PPE is required for all helicopter flights, including non-fire helicopter flights. Full PPE consists of an approved aviator flight helmet, aramid flight suit (or Nomex® shirt and pants), aramid or leather gloves, and all-leather boots.~~

~~The only acceptable situation where a hard hat may be substituted for a flight helmet is passenger transportation during fire suppression operations between an established, managed helispot/helibase and an established, managed helispot/helibase.~~

~~**Policy**~~
~~The *IHOG* serves as the standard for Interagency Fire Operations.~~
- ~~***NPS** - With the implementation of NPS RM-60 the IHOG will become policy for all helicopter operations in the NPS.*~~

Organization Crew Size
- ? ***BLM -** The standard BLM exclusive-use helitack crew is a minimum of nine personnel (PFT supervisor, long-term assistant, long-term lead, and six temporaries). As the need arises, each crew must be able to support and manage a call-when-needed (CWN) helicopter in addition to the exclusive-use helicopter.*

Chapter/Page 17-7; Line 17-20; Release January 2006
Operational Procedures
The *IHOG* ? ~~specifies how~~ is policy for helicopter operations ? ~~should be conducted~~, whether in support of wildland fire or natural resource missions, and provides guidance for helitack and helicopter operations.

? ~~Required and recommended equipment for helitack crews and helicopters changes frequently. Consult the *IHOG* and the contract for requirements.~~
- ~~***BLM/NPS** - exclusive-use contract helicopter and helitack crews are controlled and dispatched locally by the administrative unit. At the discretion of the local Fire Management Officer, these helicopters may be made available for off unit or out of state assignment.*~~

Chapter/Page 17-7; Line 30-34; Release January 2006
Transportation
Dedicated vehicles with adequate storage and security will be provided for helitack crews. The required GVW of the vehicle will be dependent upon ? the volume of equipment carried on the truck ~~helicopter type~~ and the number of helitack crewmembers ? assigned to the crew.

- ? ~~***BLM** - A standard BLM Helitack Support Vehicle may be ordered through the Equipment Development Unit at NIFC.*~~

Chapter/Page 17-7; Line 36-38; Release January 2006
Safety
? ~~A risk assessment will be made and appropriate mitigation action taken for all suppression and resource aviation missions.~~ For information on the risk assessment and management, see the *IHOG*, Chapter 3.

Chapter/Page 17-7; Line 40-45; Release January 2006
Training and Experience Requirements
All ? Helitack members will meet fire qualifications as prescribed by the NWCG 310-1 and their agency manual requirements. The following chart establishes experience and training requirements for FS, BLM, NPS, and FWS Exclusive Use Fire Helicopter Crew Positions.

Chapter/Page 17-8; Line 17-25; Release January 2006
Helicopter Rappel & Cargo Let-Down

? ~~**Policy**~~
Any rappel or cargo let-down programs must be approved by the Directors, Fire and Aviation Management.

- ***FS** - ? For the Forest Service approval is required by the Regional Office.*

All rappel and cargo let-down operations will follow the *Interagency Helicopter Rappel Guide (IHRG)*, as policy. Any exemption to the guide must be requested by the program through the state/region for approval by the National Aviation Office. ? ~~The objective is to standardize procedures and techniques that allow individuals or crews to be used for a variety of missions. To aid in this approach, methods are incorporated to cross train personnel in more than one rappel system and more than one specific helicopter type.~~

Chapter/Page 17-10; Line 6-23; Release January 2005
? ~~**Training and Qualifications**~~
~~Each Spotter and Rappeller is certified by an approved Rappel Check Spotter. Check Spotters are approved annually by the State/Regional Aviation Manager (S/RAM), ADM Training Specialist, or Helicopter Operations Specialist.~~

- ? ~~***FS** - Only spotters are required to be certified by an approved Rappel Check spotter.*~~

~~For more information on Rappeller initial training and certification, refer to *IHRG*.~~

~~**Equipment and Procedure Development Process**~~
~~When a field user has a need for a new or improved piece of equipment and/or procedure, documentation of that need must be submitted to the National Rappel Equipment Committee. Upon recommendation by the National Rappel Equipment Committee to the National Rappel Working Group it may be provisionally approved for evaluation at selected bases. The National Rappel Working Group is charged with all phases of oversight for the National Interagency Rappel Program and makes recommendations to the Interagency Helicopter Operations (IHOPS) Committee for final approval on all equipment/procedures proposals. Proposals will be evaluated based on the objectives and the following criteria: critical safety, national focus, priority, and probability of success.~~

Chapter/Page 17-9; Line 6-11; Release January 2006
Airtankers
Airtankers are a national resource. Geographic areas administering these aircraft will make them available for initial attack and extended attack fires on a priority basis. All airtanker services are obtained through the contracting process (except the MAFFS, which are Military Aviation Assets and used to supplement the contract fleet when needed).

? ~~The Interagency Airtanker Board (IATB), consisting of Forest Service, DOI, and states is responsible for approving the contract airtanker fleet. Large airtankers are procured under a national interagency contract.~~

Chapter/Page 17-11; Line 16-22; Release January 2005
? ~~**Guidance for Pilots**~~
~~To meet the 300-foot buffer zone guideline, implement the following:~~
- ~~Medium/Heavy Airtankers: When approaching a waterway visible to the pilot, the pilot shall terminate the application of retardant approximately 300 feet before reaching the waterway. Pilots shall make adjustments for airspeed and ambient conditions such as wind to avoid the application of retardant within the 300-foot buffer zone.~~

Chapter/Page 17-11/12; Line 31-7; Release January 2005
? ~~**Qualifications**~~
~~Type 1, 2, and 3 airtanker crews fall into two categories:~~
- ~~Initial attack rated~~
- ~~Initial attack candidates.~~

~~Type 4 (SEAT) pilots are classified as Level 1 or Level 2; both may operate without aerial supervision. Aerial supervision is required for a Level 2 SEAT pilot when more than two aircraft are operating within the incident airspace.~~

~~**Initial Attack Qualified** - A crew may drop retardant upon arrival at a fire without aerial supervision. This does not negate the requirements for aerial supervision if ordering agency policies, terrain, or congested areas dictate otherwise.~~

~~**Initial Attack Candidate** - A crew that is acquiring the experience, training, and prerequisite drops - but in the interim requires aerial supervision.~~

~~**Tanker Bases & Reload Facilities**~~
~~They may be contract or Force Account bases, and may be operated by the BLM, Forest Service, or states. Types of retardant (dry powder, liquid concentrate, etc.) will vary with locations.~~

Chapter/Page 17-12; Line 14-18; Release January 2005
? ~~The *IATBOG* defines and standardizes operating procedures at all airtanker bases. It facilitates personnel exchange through standardization and provides a common interagency approach in the government's relationship with airtanker and retardant contractors. It provides special instructions for personnel at airtanker bases and can provide supplemental site-specific guidance.~~

Chapter/Page 17-10; Line 7-9; Release January 2006
Airtanker Base Personnel
? ~~The *IATBOG* identifies a generic table of organization and recommended staffing for airtanker bases. The guide describes the duties of various positions at airtanker bases. Currently,~~ There is no identified training for the positions at airtanker bases; the *IATBOG* contains a chart of recommended training for each position.

Chapter/Page 17-10; Line 34-36; Release January 2006
Single Engine Airtanker (SEAT) Operations
The *Interagency SEAT Operating Guide (ISOG) (NFES #1844)* defines operating standards and is policy for both the DOI and FS. ? ~~A SEAT manager (SEMG) must be assigned to each SEAT operation.~~

Chapter/Page 17-13; Line 14-21; Release January 2005
? ~~**SEAT Policy and Standards**~~
~~Units using SEATs will ensure the aircraft complies with appropriate AMD or FS contract standards prior to use. For interagency SEAT standards, refer to AMD exclusive use and CWN contract provisions and the *ISOG*.~~

? ~~**SEAT Organization / Training and Qualifications**~~
~~The SEAT Manager position has been adopted by NWCG (2002) (refer to the *ISOG*).~~

Chapter/Page 17-13; Line 28-39; Release January 2005
? ~~**Pilot Training**~~
~~All SEAT pilots will meet the minimum fire training standards as described in their contract. The following outline has been approved and includes the following fire topics as a minimum.~~
- ~~Fire behavior.~~
- ~~Air/ground tactical operations.~~
- ~~Incident organizational structure and terminology.~~
- ~~Fire perimeter designation.~~
- ~~Radio communications and procedures.~~
- ~~Use of retardants and suppressants.~~
- ~~Mountain flying techniques.~~
- ~~Unit specific operational guidelines as appropriate.~~

Chapter/Page 17-11; Line 6-12; Release January 2006
Operational Procedures
Using SEATs in conjunction with other aircraft over an incident is standard practice. Agency or geographical area mobilization guides may specify ? additional ~~different~~ procedures and limitations.

Depending on location, operator, and availability, SEATs are capable of dropping suppressants, water, or ? ~~other~~ approved ? chemical retardants.
? ~~The fixed tanks are fiberglass.~~

Chapter/Page 17-14; Line 14-20; Release January 2005
? ~~**Guidance for Pilots when dropping around waterways**~~
~~To meet the 300-foot buffer zone guideline, implement the following:~~
- ~~Single Engine Airtankers/Helicopters: When approaching a waterway visible to the pilot, the pilot shall terminate application of retardant or foam approximately 300 feet before reaching the waterway. The pilot shall make adjustments for airspeed and ambient conditions such as wind to avoid the application of retardant or foam within the 300-foot buffer zone.~~

Chapter/Page 17-11; Line 22-24; Release January 2006
Communication
All SEATs must have ? two ~~one~~ VHF-AM and one VHF-FM (programmable) multi-channel radio. (See contract specifications.)

Chapter/Page 17-11; Line 26-36; Release January 2006
Aerial Supervision
Aerial supervision resources will be dispatched, when available, for initial and extended attack to enhance efficiency and safety of ? ground and aerial operations. During initial response operations the recommended aerial supervision in priority order with regard to safety and efficiency is as follows:
- ASM1

- ATGS
- ATCO (Leadplane)
- ? HLCO Helicopter Coordinator
- Smokejumper Spotter
- ? Helicopter Manager

Chapter/Page 17-11/12; Line 42-2; Release January 2006
Reconnaissance or Patrol flights
The purpose of aerial reconnaissance or detection flights is to locate and relay fire information to fire management. Only qualified ? ~~Air Tactical Group~~ ATGS ~~Supervisors, Air Tactical Supervisors~~ (ATS-ASM) and Lead Plane Pilots ? ~~have the training and authority to~~ are authorized to coordinate ? incident airspace ~~fixed and rotor wing aerial firefighting~~ operations. Flights with a "Recon" or "Patrol" designation should communicate with tactical aircraft only to announce location, altitude and to relay their departure direction and altitude from the incident.

Chapter/Page 17-15/16; Line 4-23; Release January 2005
? ~~**Aerial Supervision over Incidents**~~
~~**References are listed below the table***~~

~~**Situation**~~	~~**Lead/ATCO /ASM1**~~	~~**Ref**~~	~~**ATGS**~~	~~**Ref**~~
~~Airtanker not IA rated.~~	~~Required~~	~~1~~		
~~MAFFS~~	~~Required~~	~~1~~		
~~Retardant drops in congested areas.~~	~~Order~~	~~1~~	~~May use if no Lead/ATCO/ASM 1.~~	
~~Level 2 rated SEAT operating over an incident with more than one (1) other tactical aircraft on scene.~~	~~Required if no ATGS~~	~~1~~	~~Required if no Lead/ATCO/ASM 1.~~	~~1~~
~~Foreign Government airtankers.~~	~~Required if no ATGS~~	~~1~~	~~Required if no Lead/ATCO/ASM 1.~~	~~1~~
~~Retardant drops conducted between 30 minutes prior to, and 30 minutes after sunrise, or 30 minutes prior to sunset to 30 minutes after sunset.~~	~~Required if no ATGS~~	~~1, 2~~	~~Required if no Lead/ATCO/ASM 1.~~	~~1, 2~~
~~4 or more airtankers assigned.~~	~~Order~~	~~1~~	~~Order~~	~~1~~
~~2 or more helicopters with 2 or more airtankers over an incident.~~	~~Order~~	~~1~~	~~Order~~	~~1~~

Situation	Lead/ATCO /ASM1	Ref	ATGS	Ref
Periods of marginal weather, poor visibility or turbulence.	Order	1	Order	1
2 or more airtankers over an incident.	Order	1	Order if no Lead/ATCO/ASM 1.	3
When requested by airtanker or ATGS	Required	1	Required	
Smokejumper or paracargo aircraft with 2 or more airtankers over an incident.	Order if no ATGS	1	Order if no Lead/ATCO/ASM 1.	1, 4
Incident has two or more branches.			Order	1, 4

*This table summarizes interagency aviation supervision policy, but individual agency policy must be consulted for currency and consistency.

Note: Aerial Supervision Modules (ASM1) may act as either a Lead or ATGS depending on incident requirements.

Interagency Lead Plane Operations Guide (and Interagency Air Tactical Group Supervisors Guide) (NFES 1393).

Requires determination by ATGS or Lead that visibility and safety factors are suitable and dispatch has been notified of this determination.

FS FSM 5716.32.

Both the *ILOG* and *ATGS* Guide reference ordering an ATGS only for these missions. FSM 5716.32 classifies these missions as complex. An ATCO and/or HLCO should be ordered as appropriate in addition to the ATGS.

Definitions of Key Words Used in the aerial supervision requirements chart.

- **Required** - Aerial supervisory resource(s) that shall be over the incident when specified air tactical operations are being conducted.
- **Ordered** - Aerial supervisory resources that shall be ordered by the controlling entity. (Air tactical operations may be continued while the aerial supervision resource is en route to the incident. Operations can be continued if the resource is not available.)
- **Over** - The air tactical resource is flying above or is in a holding pattern adjacent to the incident.
- **Assigned** - Tactical resource allocated to an incident. The resource may be flying en route to and from, or on hold at a ground site.

Chapter/Page 17-13; Line 32-38; Release January 2006
Air Tactical Group Supervisor (ATGS)

The ATGS is primarily responsible for coordination of aircraft operations and firefighter safety on an incident. Specific duties and responsibilities are outlined in the *Fireline Handbook (PMS 410-1) and the Interagency Air Tactical Group Supervisor's Guide (NFES 1393).* The ATGS reports to the Air Operations

Branch Director (AOBD), or in the absence of the AOBD, to the Operations Section Chief (OSC), or in the absence of the OSC, to the IC. ? ~~When airborne, the ATGS works for the IC or OSC, depending on the size of the incident. When the positions are in use on an incident, the Airtanker Coordinator (ATCO) and Helicopter Coordinator (HLCO) will be supervised by the ATGS. The ATCO, commonly called a leadplane pilot, provides direct supervision to fixed-wing retardant aircraft, while the HLCO directs tactical coordination and airspace management for rotary-wing aircraft.~~

~~Currently there are three operational modes for ATGS operations:~~

- ~~The ATGS is in a contracted or ARA (rental) fixed-wing aircraft in orbit over the incident. It will always occur above 500' AGL. Pilot/aircraft carding requirements must be met, and PPE is recommended.~~
- ~~The ATGS is in a contracted, CWN, or ARA (rental) rotary-wing aircraft, and PPE is required.~~
- ~~The ATGS is on the ground with a vantage point of the entire incident. Generally only used due to an aircraft shortage, it is effective when the entire area can be viewed from the ground and the ATGS has VHF-AM and VHF-FM radio communication capability.~~
- ~~***FS** - PPE is required for FS ATGS operations below 500' AGL as per agency standard FSM 5700.*~~

Chapter/Page 17-13; Line 40-46; Release January 2006
Operational Considerations

A relief ATGS and aircraft or ASM1 should be ordered for sustained operations to ensure continuous coverage over an incident. Personnel who are performing aerial reconnaissance and detection will not perform air tactical duties unless they are fully qualified as an ATGS. Air tactical aircraft must meet ? ~~all the basic~~ the avionics typing requirements listed in the ? *Air Tactical Group Supervisor's Guide* ~~National Air Tactical/Reconnaissance Standards~~ and the pilot must be carded to perform the air tactical mission.

Chapter/Page 17-14; Line 1-11; Release January 2006
Leadplane

A leadplane is a national resource. The *Interagency Leadplane Operations Guide (ILOG)* is agency policy. Agency policy requires an ASM1/leadplane to be on order prior to retardant drops over a congested area. Operations may proceed before the SM1/leadplane arrives, if communications are established, authorization is granted from the IC, and the line is cleared prior to commencing retardant operations.

? ~~All firefighting aircraft are required to have operative transponders and will use a setting of 1255 when over the incident, unless given a discrete code by Air Traffic Control (ATC).~~

? **Smokejumper Pilots**
The interagency Smokejumper Pilot Operations Guide (ISPOG) serves as policy for smokejumper pilots' qualifications, training and operations

Chapter/Page 17-14; Line 13-30; Release January 2006
Airspace Coordination
The Interagency Airspace Program is an aviation safety program designed to enhance aviation safety and reduce the risk of a mid-air collision. Guidance for this program is found in the *Interagency Airspace Coordination Guide (IACG)* ? ~~*2003*~~, which has been adopted as policy by the ? DOI ~~AMD~~ and USDA Forest Service. Additional guidance may be found in the *National Interagency Mobilization Guide* and supplemented by local Mobilization Guides.

? All firefighting aircraft are required to have operative transponders and will use a setting of 1255 when engaged in, or traveling to, firefighting operations (excluding ferry flights), unless given a discrete code by Air Traffic Control (ATC).

? ~~The *IACG* is the primary document to be used by aviation personnel for airspace issues. Additional information is located on several agency airspace websites http://www.fs.fed.us/r6/fire/aviation/airspace/web/index.html and http://airspace.nifc.gov/mapping/nifc/index.cfm.~~

Flight planning and Temporary Flight Restriction (TFR) information on World Aeronautical (WAC) Sectional and Global Navigational Charts (GNC) has been made available at the ? ~~BLM~~ National Interagency Airspace ~~Information~~ System website (? http://airspace.nifc.gov). TFRs are updated every 30 minutes during normal business hours 7 days a week.

Chapter/Page 17-14; Line 41-46; Release January 2006
? **Flight Request and Approval ~~Policy~~**

- ***BLM*** *- The 9400-1a, Aircraft Flight Request/Schedule Form, will be used for approval and flight planning. This form will be completed between the aircraft dispatcher and flight manager for missions not requested on a Fire Resource Order. The fixed-wing or helicopter manager will use this form to brief the pilot on the mission.*

? ~~Special use flight plans~~ Project Aviation Safety Plans (PASP) require approval by the immediate supervisor and final approval by the appropriate line manager.

Chapter/Page 17-15; Line 14-18; Release January 2006

? ~~**Types of Flights**~~

~~There are two types of flights: point-to-point and mission flights.~~

Point-to-point flights typically originate at one developed airport or permanent helibase, with the direct flight to another developed airport or permanent helibase. These flights require approved pilots, aircrew, and aircraft.

- A point-to point flight is conducted higher than 500 feet above ground level (AGL).

Chapter/Page 17-20; Line 20-25; Release January 2005

? ~~**Mission flights** are defined as flights not meeting the definition of point-to-point flight. A mission flight requires work to be performed in the air (retardant or water delivery, fire reconnaissance, smokejumper delivery), or through a combination of ground and aerial work (delivery of personnel and/or cargo from helibases to helispots or unimproved landing sites, rappelling or cargo let-down, horse herding).~~

Chapter/Page 17-15; Line 20-36; Release January 2006

~~**Fixed-wing Aircraft**~~

~~**Point-to-point Flights**~~

~~All agency flights shall be approved using an aircraft request/flight schedule, USDI form 9400-1a. This form is used to authorize, plan and brief the pilot on non-fire flights.~~

Agency policy requires designating a ? Flight Manager/ Chief of Party ~~fixed-wing manager~~ for point-to-point flights transporting personnel. The Flight Manger/Chief of Party ensures compliance with contract requirements and is responsible for coordinating the given flight. He/She must have received approved Agency Specified training within the last three years. ~~The duties and responsibilities of the flight manager are:~~ Duties include:

- Briefs pilots on missions, frequencies, flight routes, hazards, flight following, passenger briefing requirements, and any other related information required.
- Checks the pilots' qualification cards and aircraft data cards for approval and currency.
- Ensures that flights are safely conducted and do not deviate from filed Flight Plans or mission profiles without prior authorization.
- Initials the flight invoices and routes them according to procedures specified in the contract.
- ~~Check pilot card to ensure qualifications are current for aircraft type.~~
- ~~Check aircraft card to ensure that aircraft is current and approved for the mission.~~

- ~~Flight plan/flight following: filed with FAA or agency, facilitate as needed. (Filing, opening, and closing the FAA flight plan is the responsibility of the pilot.)~~
- ~~Pilot briefing to passengers.~~
- ~~Ensure passengers have received and understand briefing; all personnel on board are either air crew members, or authorized or official passengers.~~
- ~~Check fiscal documents; ensure flight payment paperwork is accurate, (as outlined on the 9400-1a form) for the flight, and that procurement document and all signatures are secured.~~
- ***BLM*** *- All agency flights shall be approved using an aircraft request/flight schedule, USDI form 9400-1a. This form is used to authorize, plan and brief the pilot on non-fire flights.*

Chapter/Page 17-16; Line 1-27; Release January 2006
Mission Flights

? Mission flights are defined as flights not meeting the definition of point-to-point flight. A mission flight requires work to be performed in the air (retardant or water delivery, fire reconnaissance, smokejumper delivery), or through a combination of ground and aerial work (delivery of personnel and/or cargo from helibases to helispots or unimproved landing sites, rappelling or cargo let-down, horse herding).

? ~~Mission flights are aircraft operations associated with initial attack of wildfires, large fire support, and resource management.~~

- PPE is required for ? any fixed wing ~~a~~ mission flight conducted within 500'AGL.
- The use of PPE is required for ? all ~~both~~ helicopter flight ? (point to point and mission) ~~missions~~ and ? associated ground operations. The specific items to be worn are dependent on the type of flight, the function an individual is performing, or the ground operation being conducted. Refer to the tables in Chapter 9 of the *IHOG* for specific requirements.
- All personnel will meet training and qualification standards required for the mission.
- Mission flights for fixed-wing aircraft include but are not limited to the following:
  - Water or retardant application
  - Parachute delivery of personnel or cargo
  - ATGS operations (? leather shoes or boots and full length cotton/nomex trousers or flight suit are required). ~~PPE recommended but not required)~~
  - Airtanker coordinator operations
  - Takeoff or landing requiring special techniques due to hazardous terrain, obstacles, pinnacles, or surface conditions
  - Fire reconnaissance (PPE recommended but not required)
  - Precision reconnaissance

Chapter/Page 17-16; Line 29-35; Release January 2006
? ~~**Helicopters**~~

~~**Mission Flights**~~
Mission helicopter flights include but are not limited to the following:

- Flights conducted within 500 feet AGL
- Water or retardant application
- Helicopter coordinator and ATGS operations
- Aerial ignition activities
- External load operations
- ? ~~Night vision goggle operations~~
- ~~Hoversite/autosurvey~~
- Rappelling
- ? ~~Aerial capture, eradication, and tagging of animals~~
- ~~Offshore vessel or platform landings~~
- ~~Toe-in, single-skid and step-out landings (prior authorization or exemption is required)~~

Chapter/Page 17-22; Line 3-12; Release January 2005
? ~~The use of PPE is required for both helicopter flight missions and ground operations. The specific items to be worn are dependent on the type of flight, the function an individual is performing, or the ground operation being conducted. Refer to the tables in Chapter 9 of the *IHOG* for specific requirements.~~

- ~~***BLM** - The flight request form, 9400-1a, is used when requesting fixed-wing or helicopters for non-fire missions. Reoccurring or "Special Use", resource mission flights require an approved Project Aviation Plan. A one time "Special Use" mission may use the reverse side of BLM form 9400-1a for this purpose.*~~

Chapter/Page 17-17; Line 1-11; Release January 2006
Flight-Following All Aircraft
Coordinating and confirming with the pilot the method of flight-following that will be utilized for any flight is the responsibility of the scheduling dispatch office. When agency flight following (radio or ? automated ~~satellite~~) is being used, the scheduling dispatch office shall have flight following responsibility until transferred through a documented, positive hand-off. All dispatch centers designated for fire support shall have the capability to transmit and receive "National Flight Following" and Air Guard" ? ~~within their area of responsibility~~. Flight-following reports from the aircraft are the responsibility of the pilot-in-command (PIC) in accordance with 14 CFR. Violation of flight-following standards requires submission of a SAFECOM.

For tactical aircraft that cross dispatch area geographic boundaries, the receiving unit is responsible to confirm arrival of the aircraft via landline to the sending Geographic Area Coordination Center.

- ***BLM/FWS/NPS*** *- Refer 351 Departmental Manual - Flight Operations Standards and Procedures, IHOG Chapter 4, and National and Geographic Area Mobilization Guides for specific direction.*
- ***FS*** *- Refer FSM 5700, FSH 5709 handbooks, IHOG Chapter 4, and National and Geographic Area Mobilization Guides for specific direction.*

Chapter/Page 17-17; Line 22-32; Release January 2006

? Flight-Following Point to Point, Non-Mission Flights

Agency Radio communication is not mandatory. Flight Following for point to point, non-mission flights shall be accomplished using one of the following methods:

- **FAA IFR or VFR flight plan**
  Pilot/chief of party shall notify sending/receiving dispatch office of ETD, ETA and ATA. Radio Communication with agency dispatch office is not required.
- **Agency check-in via radio**
  Pilot checks in via radio with agency dispatch office on set intervals during duration of flight (usually every 15 ? ~~to 20~~ minutes).

Chapter/Page 17-17; Line 37-45; Release January 2006

? Flight-Following Mission Flights

Agency FM radio capability is required for all mission flights. Flight Following for mission flights shall be accomplished using one of the following methods:

- **Agency check-ins via radio**
  Pilot checks in via radio with agency dispatch office on set intervals during duration of flight (usually every 15 ? ~~to 20~~ minutes).
- **? Automated ~~Satellite~~ Flight Following (AFF)**
  AFF shall be conducted according to the provisions outlined in the *National Interagency Mobilization Guide, section 24.3.1*. ? ~~Pilot checks in with agency dispatch office just prior to or shortly after take off, and after landing. Agency Dispatch office monitors flight via computer for duration of flight. No intermediate check-ins is required. Pilot shall monitor assigned agency FM frequency, including guard, for duration of flight. If satellite signal is lost, or dispatch office computer fails, revert to radio check-in procedure above.~~

~~**Aviation Communication "Watch Out" Situations**~~

~~When one or more of the following situations exist, they must be mitigated before aerial operations are continued:~~

- ~~Poor or intermittent communications with ground and/or air resources.~~
- ~~Ground resources are not continuously monitoring and communicating on assigned Air-to-Ground frequency.~~

- ~~Any arrival of air resources in the incident airspace without establishing positive communications.~~
- ~~Radio frequency overload or inattention makes communications difficult or ineffective.~~
- ~~Any aircraft in the incident airspace with inoperable radios.~~
- ~~Airtankers, Leadplanes or SEATs do not have a clear frequency to conduct retardant drop communications.~~
- ~~Aircraft frequency assignments are changed in the middle of the day or during aerial operations.~~
- ~~An aircraft emergency or medivac occurs.~~